REMARKS

Claims 1-3 and 6-13 are pending in this application.

Claims 1-3 and 6-13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,859,116 to Nishimura et al, in view of U.S. Patent No. 5,585,687 to Wakabayashi and in further view of U.S. Patent No. 6,362,561 to Kuroda and/or U.S. Patent No. 3,796,968 to Luscher.

The present invention, as recited in claim 1, recites inclined surfaces are arranged at both ends of the crystal blank. As a result, the vibration energy excited in the crystal blank is trapped in the center portion of the crystal blank in which both principle surfaces are parallel to each other. Therefore, end face reflection of the vibration wave is prevented and the vibration characteristics such as crystal impedance are maintained satisfactorily. In order to avoid adverse effects on the vibration characteristics, the conductive material which is used for holding the crystal blank must be adhered to the crystal blank at a position outside of the parallel portion of the two principal surfaces. Since some area is necessary for adhering the conductive material with sufficient mechanical strength, the conductive material is adhered to the longer inclined surface in the present invention. The trapping of the vibration area can be achieved by the shorter inclined surface. Accordingly, there is a technical advantage in having different dimensions for the inclined surfaces, thus obviating the Examiner's alleged basis for obviousness outlined in the "Note" beginning on page 4 of the office action.

Further, according to Nishimura, in order to facilitate control of the oscillation frequency, a pair of the excitation electrodes are disposed on both of the inclined surfaces. As a result, the electrodes oppose each other through the crystal blank at different thicknesses. To vary the vibration frequency, Nishimura uses the fact that the vibration frequency is in reciprocal

proportion to the thickness of the crystal blank sandwiched between the pair of excitation electrodes. Thus, Nishimura teaches away from combination with a traditional crystal unit in which the excitation electrodes are disposed in parallel on both flat principal surfaces of the crystal. Accordingly, it is submitted that there is no motivation to combine Nishimura with Wakabayashi as suggested by the office action.

Still further, it is submitted that the relied upon portions of Wakabayashi, col. 8, lines 41-45 do not teach or suggest inclined surfaces that are different from each other in size. Though the word "trapezoidal" is used in the reference, since the context is that of Figs. 7 and 8, it is obvious that as used in Wakabayashi trapezoidal refers only to an icosceles trapezoid, having inclined surfaces that are the same length. Thus Wakabayashi does not teach inclined surfaces of different sizes.

Similarly, the references Kuroda and Luscher both teach a pair of extension electrodes that extend toward both inclined surfaces respectively, but the length of the inclined surfaces is identical to each other.

Therefore, since none of the references disclose or suggest extension electrodes being extended toward the greater inclined surface, the combination of the references does not render claim 1 unpatentable.

Claims 2, 3, and 7-13 depend from claim 1 and are therefore allowable for at least the same reasons as claim 1 is allowable.

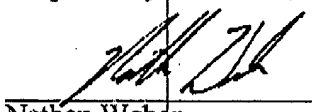
CONCLUSION

In view of the remarks set forth above, this application is believed to be in condition for allowance which action is respectfully requested. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully

requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged to Deposit Account No. 50-1290.

Respectfully submitted,



Nathan Weber
Reg. No. 50,958

CUSTOMER NUMBER 026304
Telephone: (212) 940-8564
Fax: (212) 940-8986/8987
Docket No.: 100957-00083 (WAKA 20.745)
NDW:fd